67729

Glass Object with basalt clasts

73.2 grams

Figure 1: Photo of 67729 before processing. Sample is 4 cm. S72- 43441 Top

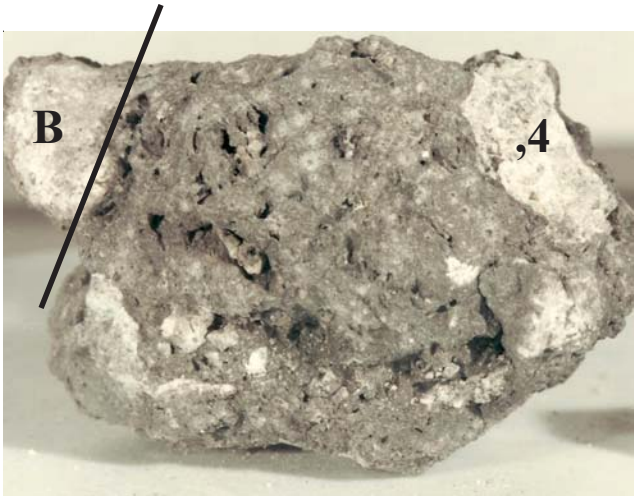


Figure 2: Photo of bottom of 67729 before processing. Line shows approximate first break. S72-43442

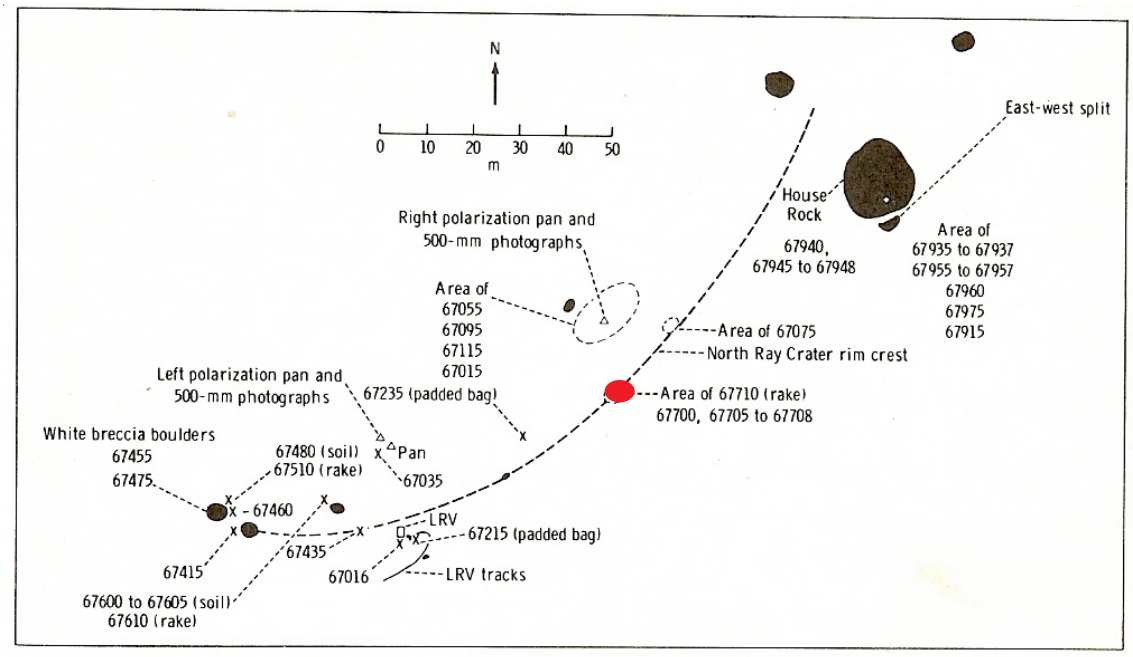


Figure 3: Map of North Ray Crater showing location of rake sample.

Introduction

67729 was collected as a rake sample from the rim of North Ray Crater – see section on 67701. It is a vesicular glass breccia with significant clasts, and has the appearance of a "glass bomb". It has zap pits on all sides. 67729 and it's clast assemblage has not been studied. It contains a basalt clast.

Petrography

Borchardt et al. (1986) studied the "glass bombs" found in and around North Ray Crater, but they seem to have overlooked this rather good example. 67729 is like an envelope of rock clasts, wrapped in glass. If it were to be a "bomb", it could have been delivered from afar.

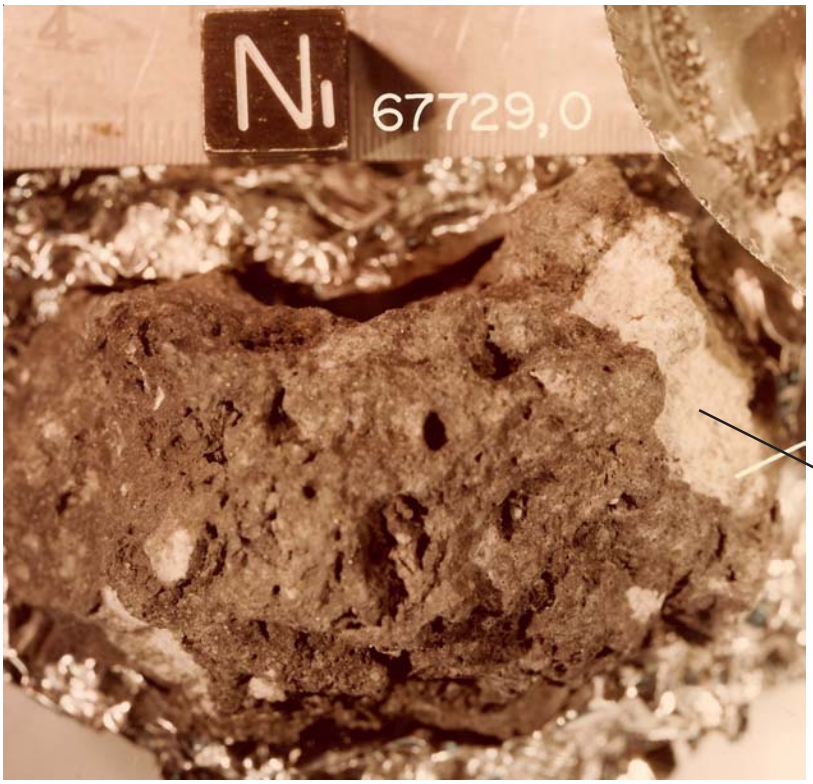


Figure 4: Photo of 67729. Cube is 1 cm. S80-28170

Figure 5: Photo of main mass of 67729 showing green clast ,9. S80-28171

Most glass in 67729 is devitrified, with abundant plagioclase microlites. The glass exhibits flow-banding.

67729 contains about 10 lithic clasts – they have not been studied.

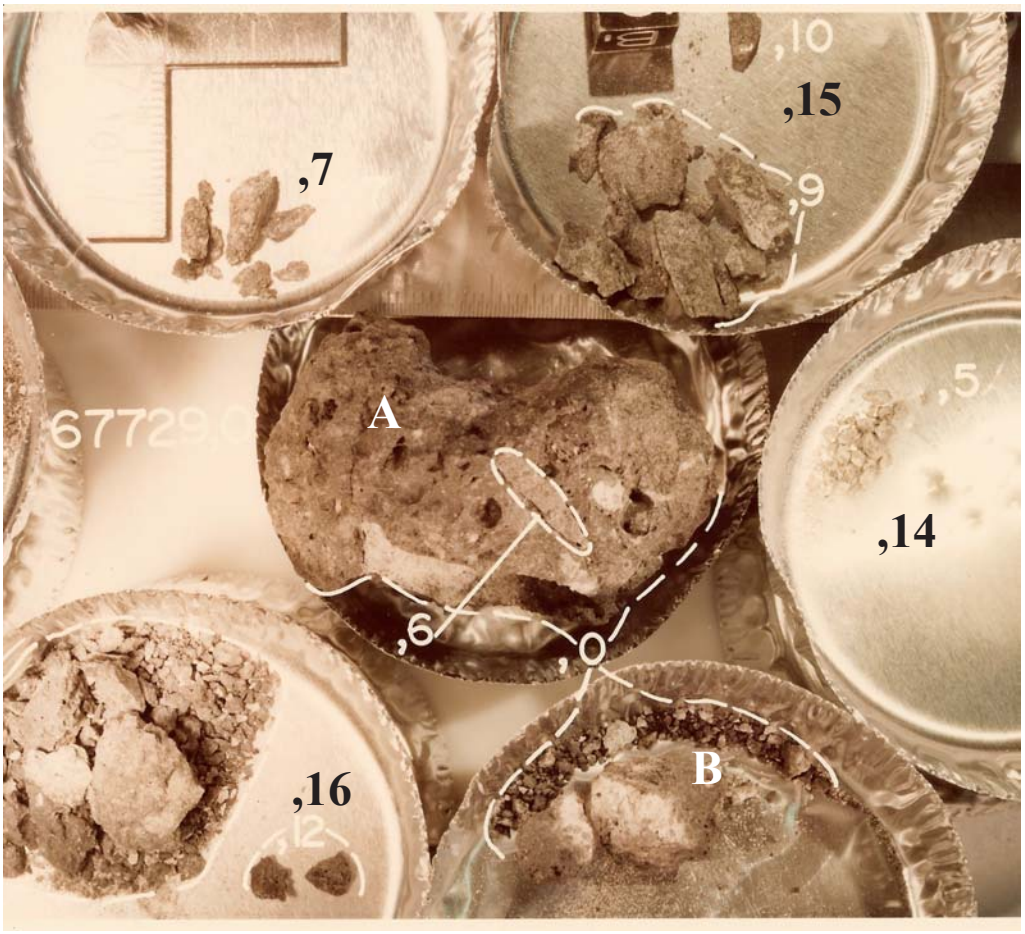


Figure 6: Processing photo of 67729. A and B are both part of ,0. Part B has yet another white clast. S80-28169. Cm cube at top for sacale.

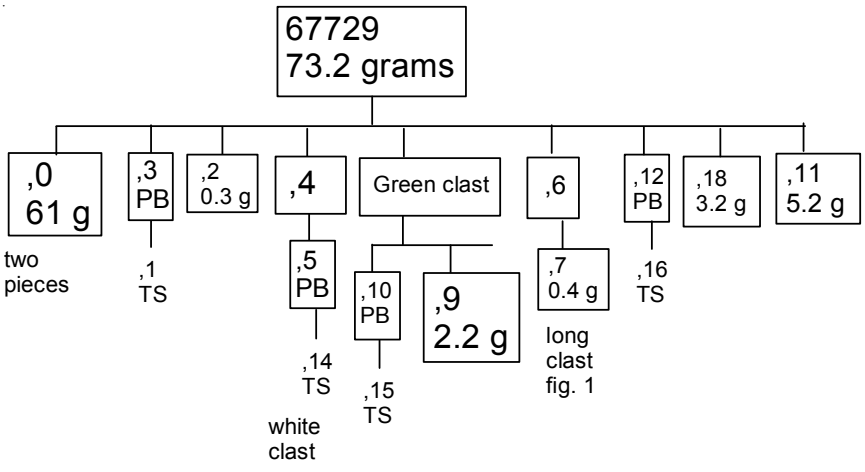
Significant clasts

White Clast ,4 ,14TS

This clast is chalky white and about 2 cm in dimension (figure 2 and 4). It has subophitic to granular texture with large plagioclase and about 30% yellow mafic mineral (figure 8)(Ryder and Norman 1980). Most of it remains on ,0.

Green Basalt Clast ,9 ,15TS

Most of this clast also remains on the parent ,0, but a number of pieces (,9 ,10 figure 6) were extracted. Thin section ,15 shows an ophitic basalt with a well-developed plagioclase network enclosed by olivines up to 3 mm in diameter (figures 9 and 11).



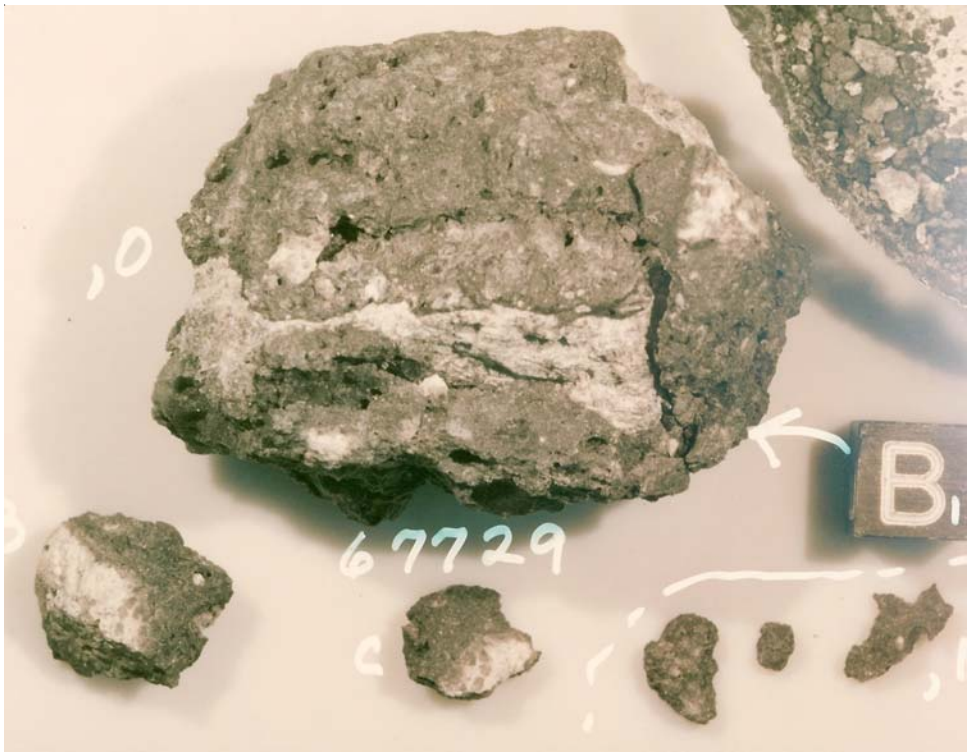


Figure 7: Processing photo circa 1996, when addtional chipping occured. Clasts not identified. Cube is still 1 cm. S96-01614

Figure 8: Thin section 67729,14 (crossed polarizers).

Figure 9: Thin section 67729,15 (basalt clast).

Long Clast, 6 - ,7 no section
This clast may be same material as ,9.

Off-white clast (on B).
This white clast has vague outline, and would appear to be a cataclastic anorthosite. It has not be sectioned.

Chemistry
none

Processing
First, during initial handling, a large piece (B) containing a white area broke off and a thin section ,1 was made (figure 2). It is still considered part of ,0. In 1980, the obvious clasts were sampled to make thin sections (figure 6). In 1996, additional chips were made to yield a glass sample (,19)(figure 7) and more white clasts were expsoed. The remainder of each clast still resides on A or B.

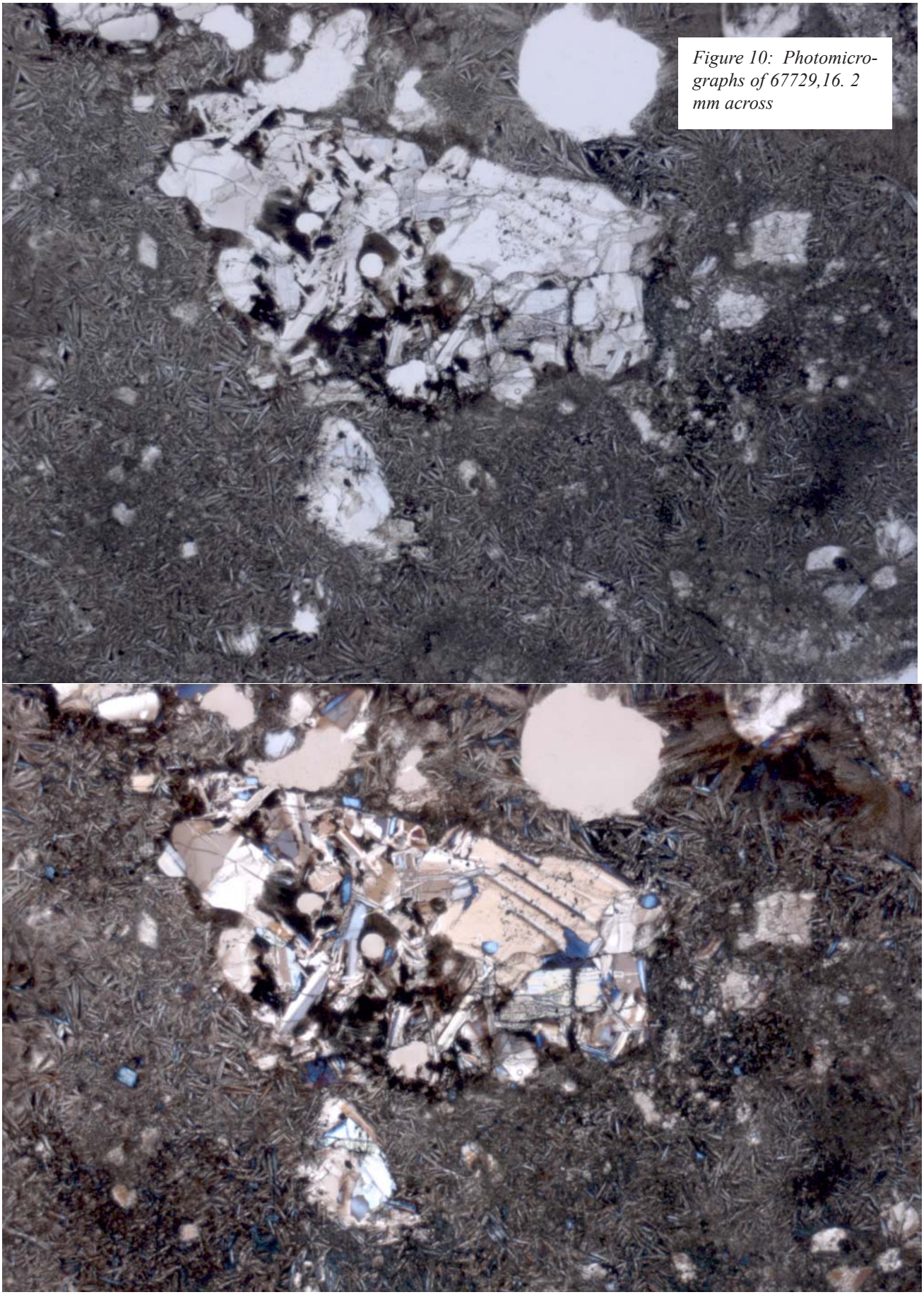


Figure 10: Photomicrographs of 67729,16. 2 mm across

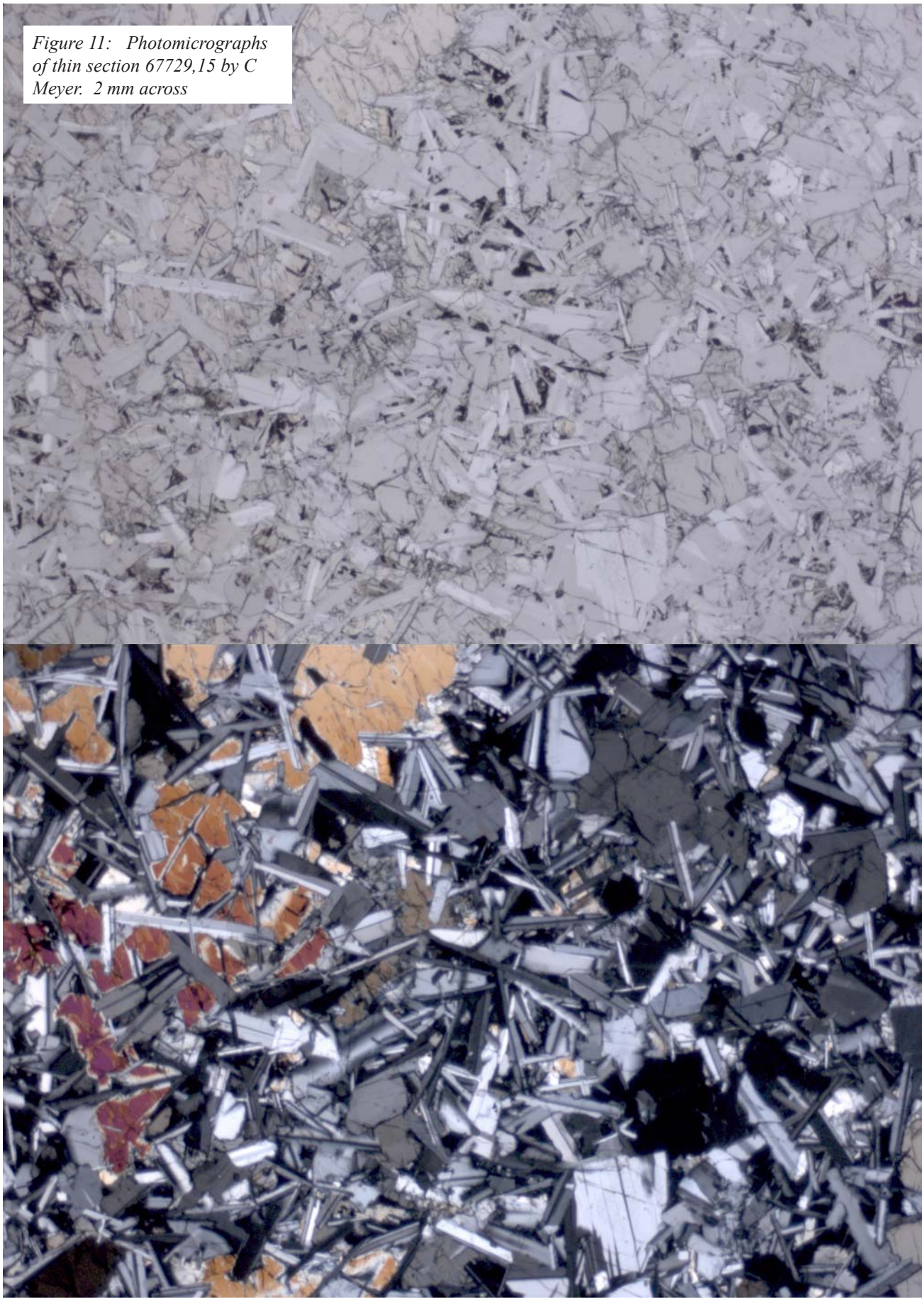


Figure 11: Photomicrographs of thin section 67729,15 by C Meyer. 2 mm across

References for 67729

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